Sidelights on New Zealand Ichthyology

By GILBERT WHITLEY, F.R.Z.S.

(Contribution from the Australian Museum, Sydney.)

(Plate vi.)

Anyone studying Australian fishes, particularly the southern temperate species, soon finds that the fishes of New Zealand have to be taken into consideration as well. Not only are the species closely related, but many are identical, and some of them were discovered by Cook and other early visitors to New Zealand before they were found in Australia. For many years, therefore, I have been interested in New Zealand ichthyology, have analysed all the literature on the subject, compiled in manuscript a check-list which is being submitted for publication elsewhere, have identified specimens, sometimes in consultation with colleagues, and have visited New Zealand for field work. There is a great deal to be placed on record about the fishes of New Zealand and adjacent seas. The purpose of the present paper is to shed a little light on some obscure taxonomic aspects; it is divided into two parts: (1) New names and synonyms, and (2) Steindachner's New Zealand Fishes.

(1) NEW NAMES AND SYNONYMS.

Family RETROPINNIDAE.

STOKELLIA, gen. nov.

Orthotype, *Retropinna anisodon* Stokell (Rec. Canterb. Mus. iv, 7, Sept. 10, 1941, p. 371, pl. lv, fig. 2 and text-fig. 1, from Waiau River) = *Stokellia anisodon*.

The characteristic long premaxillary underlying four-fifths of the toothless maxillary separates Stokell's species so markedly from the others in the genus that a new generic name seems advisable.

Family MURAENICHTHYIDAE.

Genus MURAENICHTHYS Bleeker, 1864.

MURAENICHTHYS BREVICEPS HALITUNA, subsp. nov.

The Worm Eel from Tasman Bay, Nelson, described and figured as *Muraenichthys breviceps* by Griffin (Trans. N. Zeal. Inst. liii, Aug. 31, 1921, p. 351, pl. liv, fig. 1) differs from the Tasmanian type of Gunther (Ann. Mag. Nat. Hist. (4) xvii, May 1, 1876, p. 401) as follows: Length of head about one-half of the distance from the gill-opening to the vent, or one-tenth total length; teeth in a triple series on the palate and uniserially on jaws. Griffin's fish may be subspecifically named *halituna*, nov.

Family SYNGNATHIDAE.

NOVACAMPUS, gen. nov.

Orthotype, *Syngnathus norae* Waite (Proc. N. Zeal. Inst. 1910, i, p. 25 and Rec. Canterb. Mus. i, 3, 1911, p. 173, pl. xxvii, fig. 1, from Stewart Island to Pegasus Bay) = *Novacampus norae*.

Snout long, sloping gently into interorbital. Orbits not prominent. Opercular keel reduced, with radial lines, or absent. Superior ridges of trunk and tail discontinuous below dorsal fin. Inferior ridges of trunk and tail continuous. Median ridge of trunk continuous with superior ridge of tail, thus the arrangement accords with No. 7 of Duncker's scheme. Brood-pouch subcaudal, one-fifth of tail. A median ventral carina. Dorsal, anal, pectoral and caudal fins present. Base of dorsal fin not elevated, situated mostly over tail. Caudal fin shorter than postorbital. D. 37 to 40; P. 12 to 13. Rings 18 to 20 plus 48 to 51; subdorsal 10 to 11.

Differs from *acus*, the type-species of *Syngnathus*, in having the opercular keel reduced or absent, the median ridge of the trunk continuous with the superior one of the tail, much smaller size, and more numerous tail-rings (48 or more instead of less than 47).

Family MULLIDAE.

Genus UPENEICHTHYS Bleeker, 1855.

UPENEICHTHYS POROSUS (Cuv. & Val.).

Atahua clarki Phillipps (Proc. Roy. Soc. N. Zeal. lxxi, Dec. 1941, p. 243, pl. xli, fig. 5, from Hawke Bay) is apparently synonymous with *Upeneus porosus* Cuvier & Valenciennes (Hist. Nat. Poiss. iii, April 1829, p. 455 from the River Kiddi Kiddi, Bay of Islands).

Family GIRELLIDAE.

Genus GIRELLA Gray, 1835.

GIRELLA TRICUSPIDATA (Quoy & Gaimard).

Sparus hamiltoni Phillipps (Trans. N. Zeal. Inst. lviii, Aug. 15, 1927, p. 130, pl. v, fig. 4, from Hauraki Gulf and Poor Knights Islands) is not a Sparid but should be added to the synonymy of *Boops tricuspidatus* Quoy & Gaimard (Voy. Uranie Physic., Zool., 1824, p. 296) which was said, probably erroneously, to have come from Shark's Bay, Western Australia, where I have never seen the species.

Family LABRIDAE.

TIRICORIS, gen. nov.

Orthotype, *Cymolutes sandeyeri* Hector (Trans. N. Zeal. Inst. xvi, May, 1884, p. 323, from Tiritiri Island, Auckland; name emended to *sandageri* by Sandager in 1888 and Phillips in 1927) = *Tiricoris sandeyeri*.

The type-species, with its indirect synonym *Coris rex* Ramsay & Ogilby, 1886, differs from the genera with which it has been associated as follows:

A. Lateral line continuous.

B. Hind canines obsolete. Sc. less than 70. Dark blue or black with a humped head in fullgrown specimens. Caudal concave ..... *Coris* (*aygula*).

BB. Hind canines developed. Sc. *c.* 100. Variously coloured body banded. No hump on head. Caudal subtruncate, *Tiricoris, nov.*

AA. Lateral line interrupted. Sc. *c.* 80. No hind canines. Grey to greenish, often with oblique bars on head, body and fins .. *Cymolutes.*

Family ACANTHOCLINIDAE.

Genus ACANTHOCLINUS Jenyns, 1841.

TAUMAKOIDES, subgen. nov.

Orthotype, *Acanthoclinus trilineatus* Griffin (Trans. N. Zeal. Inst. lxiii, June 1933, p. 330, pl. xxxiv & text-fig. 2, from Bay of Islands and Great Barrier Is.) = *Taumakoides trilineatus*.

Differs from typical *Acanthoclinus* in having the lowermost lateral line on each side simple, not anteriorly bifurcated.

Family ALEUTERIDAE.

PARIKA, gen. nov.

Orthotype, *Balistes scaber* Bloch & Schneider (Syst. Ichth., 1801, p. 477, from Queen Charlotte Sound, type-locality by present designation) = *Parika scabra*.

The type-species of this new genus comes down to the group of genera numbered 8 to 10 in Fraser-Brunner's key (Ann. Mag. Nat. Hist. (11) viii, 1941, p. 177), being nearest *Navodon*. Characteristics: Gill-opening below eye. Dorsum gently convex. The outwardly directed postero-lateral barbs of the slightly compressed dorsal spine are larger than the obsolescent ones on its anterior face; the spine depressible into a groove. Dorsal and anal fins not elevated anteriorly, their bases about opposite. Ventral flap little developed, supported by pelvic projection. Caudal peduncle without bristles or hooks.

(2) STEINDACHNER'S NEW ZEALAND FISHES.

Ichthyologists in New Zealand have been hampered through not having access to an important paper by Franz Steindachner, published many years ago in Vienna, which dealt with a number of fishes from New Zealand and the Chatham Islands, some of which were named as new species. The full title of the work, which I have translated from the German, is:—

Steindachner, Dr. Franz

"Fische aus dem Stillen Ocean. Ergebnisse einer Reise nach dem Pacific (Schauinsland 1896-97)." It appeared in

Denkschriften der Kaiserlichen Akademie der Wissenschaften, Math.—Naturw. Classe (Wien), lxx, 1900 (1901), pp. 483-522, pls. i-vi.

Or, *in* English:

"Fishes from the Pacific Ocean. Results of a voyage to the Pacific (Schauinsland 1896-97)." By Dr. Franz Steindachner, Active Member of the Royal Academy of Science (with 6 plates). Placed before the meeting of 21 June 1900.

The paper dealt with fishes collected by Schauinsland in various parts of the Pacific, so I translate merely the Introductory remarks of Steindachner and only his accounts of fishes from New Zealand, and the Chatham Islands. I comment in footnotes on a few obvious errors in the original.

He commences (p. 483) as follows:—

The ichthyological collection forwarded to me for revision by the Museum in Bremen, which I allow myself to report upon here, was made by the Director himself, Professor Schauinsland, during a voyage to the South Seas in the years 1896 and 1897. It contains about 160 species of fishes, of which by far the greater part—117 species—came from the coasts of the Sandwich Islands (Oahu and Laysan), the latter a small uninhabited coral island, about 800 nautical miles north-west of Honolulu.

Although the Sandwich Islands have several times been investigated in connection with ichthyology, particularly by Garrett, Professor Schauinsland's collection contained a by no means insignificant number of new and rare forms, for example one specimen each of *Apogon maculiferus* Garr. and *Chilodactylus vittatus* Garr. of which the types have probably been lost, and it is therefore not to be underrated from a faunistic standpoint. The remaining species cited in the present paper were collected from the coasts of the Samoan Islands and the Chatham Islands (about 560 nautical miles eastward of New Zealand) as well as in New Zealand itself; of these, two, if not three, species are new to science. Finally there are five already well-known species from Bare Island near Vancouver, of which an example of *Xiphidium mucosum* Girard of unusual size (40.1 cm. long) lies before me.

p. 487. *Haplodactylus schauinslandii* n. sp.

Plate i, fig. i [Plate vi, fig. 1 of present paper].

Br. 5. D. 16/1/7.* A. 3/7. P. 16 (9+7). L. 1. 99-100.

The greatest depth of the body is contained about 4½ times in the total length and a little more than 4-4/5 times in the length of the body, the length of the head goes about 5 times in the total length, the length of the snout nearly 3 times, the diameter of the eyes 5-4/5 times, and the breadth across the flat forehead 4 times in the length of the head.

The snout is concave in profile above the lower nostrils, however, the forehead swells into a weak pad; it then dips very slightly before the but very slightly straightened profile line of the nape and shoulder ascends to the dorsal.

The horizontally situated mouth-opening is overtopped by the bluntly ovally rounded end of the snout. In the upper as well as the lower jaw there are twenty-two teeth in an external row; they end in three cusps, of which the middle one is longer and stronger than the laterals.

* Should be 1/17.—G.P.W.

The hinder end of the upper jaw lies under the vertical of the anterior border of the hinder nostril.

Both nostrils are of moderate size, circular; the lower pair carry a high flap on the hinder margin.

p. 488. The hind and under skinny margins of the preoperculum form a regularly rounded, wide arch. A broad skinny flap fringes the concave upper margin and the tip of the opercular spine. There is not the slightest perceptible development of a second opercular spine. Cheeks, opercle and interopercle covered with very small scales. Snout with the inclusion of the preorbital, forehead and forward part of the nuchal region naked. The pectoral fin is just a trifle longer than the head; the six* lowermost rays are not split, they are thickened and the uppermost of them is a little shorter than the preceding split ray.

The fifth [and] highest spine of the first dorsal fin, as well as the highest third and fourth articulated rays of the second dorsal are a little shorter than the head, excluding the snout.

The second dorsal spine is scarcely half as long as the fifth, the first is about 2½ times shorter than the second spine and about two-thirds of the diameter of the eye. The origin of the dorsal is situated vertically over the tip of the skinny opercular flap. The two dorsal fins are [more or less] separated from one another by a deep notch.

The caudal fin is weakly concave at its hinder border, but shorter than the head and thickly covered all over with scales which, with the exception of those lying over the smallest anterior third of the length of the fin, are extremely small.

In the pectoral fin there is only an arched excision in about the basal third of the fin's extent, and it is likewise covered with only very small scales indeed.

The anal fin ends in a downward point. The third spine goes about 2½ times in the length of the head, whereas the second hardly equals the diameter of the eye. The third, highest, articulated ray of the fin is equal to ⅞ of the length of the head.

A thick, densely scaled fold of skin overlies the base of the spinous first dorsal, the anterior third of the second dorsal and the anal. Towards the middle of the proximal parts of both these fins they disappear by degrees in the nature of a fold.

The scales of the anterior part of the flanks are small, further back to about the end of the middle third of the length of the body they increase but little, finally but perceptibly suddenly becoming large towards the caudal.

The scales on the abdominal part of the body are much smaller than those of the flanks and the scales of the thoracic region hardly noticeably larger than those scales which cover the operculum. A little larger, finally, are the scales of the abdomen between the ventrals and the anal.

The head, flanks and all the fins are deep violet and spangled with orange-yellow spots; the ventral surface of the body is orange-yellow with some brownish dots thereon, and unspotted between the ventrals and the anal. The yellow spots increase in size on the sides of the body down below the lateral line and the spots of the undermost rows unite themselves here and there into large blotches with darker violet spottings or into a more or less long band. The breast is indistinct violet, etcetera, wavy, streaked, and spotted upon the dirty bright-golden-brown ground colour. Three narrow violet cross-bars are situated on the under surface of the head.

One example 30.5 cm. long from New Zealand.

p. 490. *Chilodactylus macropterus* (Forst.) Gthr.

2 Examples, about 25 and 25.8 cm. long, from New Zealand.

p. 491. *Latris ciliaris* Forst.

1 Example, 26.7 cm. long, from New Zealand.

* Six in the text, but seven in the figure; but this might vary on two sides of the same fish.—G.P.W.

D. 16/42. A. 3/34. L. l. 90 (as far as caudal). Pectoral with eight simple rays. Length of the head contained 4½ times in the total length.

Sebastes percoides (Sol.) Richards.

2 Examples, 25.9 and 26.3 cm. long, from New Zealand.

p. 496. *Anema monopterygium* (Bl. Schn.) Gthr.

1 Example, 29 cm. long, from New Zealand.

p. 497. *Percis nictymera* C.V.

Two specimens, 23 and 30.1 cm. long, from New Zealand. Length of head about 3¾, depth of body 5-1/3 times in the total length. Diameter of eye contained 5¼ times, length of snout nearly 2¼, interorbital 4, length of the pectoral slightly more than 1½ times, and that of the ventrals about 1-1/3 times in the length of the head.

Vomer toothed. The short dorsal spines increase in height to the last and are united with the soft rays into one fin. The ventrals, with the exception of their innermost rays, thickly integumented, reach back just a little past the anal orifice.

Scales lying partly isolated on the hinder part of the cheeks, lacking on the anterior portion of the cheeks.

Ten scales between the first dorsal spine and the lateral line.

P. 20. D. 5/20. A. 16.

p. 498. *Trigla kumoides*, N. Sp. (near *Trigla kumu*, Var.).

Plate 1. Figs. 2, 2a [Plate vi, fig. 2 of present paper].

One example, 38.5 cm. long, from New Zealand.

D. 9/16. A. 15. P. 11.

Body scales small, scales of the lateral line smooth-edged. Length of the head contained somewhat more than 4 times, length of the pectoral 3½ times (in *Trigla kumu* about 3 times), that of the ventrals rather more than 5 times (in *Trigla kumu* 4¾ times) in the total length; length of the snout contained 2-1/5 times, of the eye 4-3/5 times (in *Trigla kumu* 5 times) in the length of the head, and mean interorbital width a little more than 1½ times in the diameter of the eye.

Preorbital broad at the anterior margin, obtusely rounded, not surpassing the anterior border of the interoperculum and without projecting serrations. Ridges absent along the preorbitals and on the cheek-region, as in *Trigla kumu*. Interorbital concave. Two short pointed spines at the anterior end of the supraorbital margin.

The pectoral, whose hind margin is broadly rounded [according] to that of the description of the example lying [before me is] on the left side of the body a little longer than on the right since it reaches back on the left side to the fifth, on the right side to the second ray of the second dorsal, or left to the third anal ray, and on the right side to the beginning of the anal fin.

Pectoral without blackish spot on the inner side (there also sometimes missing in *Trigla kumu*) yet with one or two bright, very small dots on the sixth ray of the right pectoral fin. Inner side of the fin deep bluish violet, with the exception of the two lowermost rays, which are tinged whitish; outer side of the same fin lead-coloured nearest the base, thenceforth darker grey-violet.

Without inspecting a greater number of equal-sized specimens of *Trigla kumu*, I had hardly dared to separate it here specifically as the representative of a questionable new species from the described example *Trigla kumu*, since the relationship of both species is doubtless very close, yet I find in *Trigla kumu* the pectoral, which is ovally rounded at the hinder margin, is always longer, the eye considerably smaller, the preorbital more strongly ovally rounded at its anterior end and somewhat more extensively overhanging the mouth-opening than in *Trigla kumoides*.

p. 499. *Tripterygium medium* Gthr.

Many specimens up to 7.6 cm. long, from the Chatham Islands, Maunganui, Toone (Red Bluff) also from French Pass (Waikawa, Flemming) in fresh water.

Brown marbled with darker. Upper margin of eyes without tentacle; the hinder end of the upper jaw often reaches backwards in the older specimens to under the middle of the eyes.

The teeth of the lower jaw increase a little in length in the outer rows towards the anterior ones and those farthest forward are sometimes proportionally strikingly large, caniniform and curved.

D. 4/15-16/12-13. A. 20, 21 (seldom 22-23). P. 9-10/6 (unsplit). L. l. 45-46.

p. 500. *Acanthoclinus littoreus* (Forst.) Gthr.

Many specimens from D'Urville Islands and French Pass, 3.1-12 cm. long

D. 20/4-5. A. 9/5-4. L. Lat. above 76-85+3. L. lat. middle 90-97. L. lat. inferior 107-116.

Very indistinct, blurred, yellow brown, rounded spots on the body, on a dirty dark violet ground. A darker spot on the operculum, two dark stripes start from the eye and slope obliquely backwards.

Lepidopus caudatus (Euph.) White.

One example, 62.7 cm. long, from New Zealand.

Length of head 7 times in that of the body, eye-diameter contained somewhat more than $5\frac{1}{2}$ times in the length of the head, twice in that of the snout, the latter a little more than $2\frac{1}{2}$ times in the length of the head. Interorbital about 7-2/5 times, depth of body rather more than twice in the head.

Length of head 8.55 cm., eye-diameter 1.5 cm., length of snout measured from the tip of the lower jaw nearly 3.5 cm., depth of the body over the anal origin 4.5 cm.

p. 501. *Diprocrepis puniceus* (Richrds.) Gthr.

Many specimens from the Chatham Islands, D'Urville Islands and French Pass.

p. 503. *Pseudolabrus cossyphoides*, n. sp.

Plate II, fig. 1 [Plate vi, fig. 3 of present paper].

Snout produced, triangular. Cheeks with 6-7 rows of small scales. Opercular scales large. Rest of head naked. A strong well-developed canine tooth next to the corner of the mouth on each side of the symphysis. Anterior canines [in the upper jaw] at the symphysis stronger and longer than in the lower jaw.

Dorsal with numerous dot-like violet spots in oblique rows. Anal immaculate. A moderately broad dark brown cross-band at the hinder part of the caudal peduncle, for the most part encroaching upon the base of the caudal fin.

A row of very small scales extends a little way onto the bases of the soft parts of the dorsal and anal fins. Lateral line [scales] strongly ramified.

D. 9/11. A. 3/10. P. 12. L. Lat. 26+1 (on the caudal). L. tr. $2\frac{1}{2}$/1/8 (to ventral).

In the form of the head this species approaches more the species of the genus *Cossyphus* rather than those of *Pseudolabrus*. The upper profile of the head is weakly concave, the snout acutely produced.

p. 503. The length of the head inclusive of the broad dermal flaps at the opercular margins is a little more than three times in the length of the body, about 3-2/3 times in the total length, the greatest depth of the body somewhat less than $3\frac{1}{2}$ times in the total length, the length of the snout contained nearly 2-4/5 times in that of the head, the diameter of the eyes

twice in the length of the snout, the length of the pectoral about 1-1/3 times, of the ventrals about $2\frac{1}{4}$, and the length of the caudal very slightly more than $1\frac{1}{2}$ in the length of the head.

Upper lip with numerous oblique folds on the inner side; under-lip ~~over~~-hanging laterally, anteriorly crumbling below. The corner of the mouth falls vertically under the anterior nostrils. Nasal openings small. The spines of the dorsal fin increase in length to the last, the articulated rays up to the penultimate gradually increase in height; the stiff part of the last, ninth, spine is about 1-1/3 times shorter than the last ray.

Dorsal and anal pointed at their hinder ends. The caudal is weakly concave at its posterior margin, the marginal rays, above and below, surpass but slightly the hinder limits of the [dorsal and anal] fins.

p. 504. The smaller anterior portion of the caudal fin is scaly, the squamation reaches further back only on the upper and lower rays.

Head and body in life considered to be rosy coloured; dorsal and anal said to be yellow. Band at the base of the tail and upper and lower margin of the caudal brown-violet.

1 Specimen, 24.5 cm. long. Locality, New Zealand.

[I have already demonstrated in my "Studies of Ichthyology, No .7," published in Rec. Austr. Mus. xix, 1, Aug. 2, 1933, p. 86, that *Pseudolabrus cessyphoides* is a synonym of *Pseudolabrus* (*Lunolabrus*) *miles* Bloch and Schneider.—G.P.W.]

Pseudolabrus bothryocosmus (Richrd.) Gill.

(*Labrichthys bothryocosmus* Gthr.)

Many examples, 13.9 to 18 cm. long, from New Zealand.

Pseudolabrus celidota (Forst.) Gill.

(*Labrichthys celidota* Gthr.)

One example, 17.6 cm. long, from New Zealand.

Six rows of scales on the cheeks. A dark blotch under the last spine and first ray of the dorsal fin. A darker transverse mark at the base of each scale on the body. A curved streak runs from the snout to the eye and beyond that to the posterior margin of the operculum.

D. 9/11. A. 3/10. L. l. 26+1.

p. 509. *Coridodax pullus* (Forst.) Gthr.

One example, 37.4 cm. long, from New Zealand.

D. 14/20, A. 3/12. L. lat. 80+2 on the caudal. L. tr. 12/1/25 to ventrals.

Lotella grandis Rams.

(Proc. Linn. Soc. N. S. Wales, vol. v, p. 462.)

Two specimens, 31 and 34.2 cm. long, from New Zealand.

Length of the head 3-2/3 to 3-5/12 times in the length of the body, about 3-5/6 to 4 times in the total length. Diameter of the eyes contained 5 to $5\frac{1}{2}$ times in the length of the head snout 3-2/5 to somewhat more than 3-4/5 times, interorbital 3-3/5 to $3\frac{1}{2}$ times, length of mouth-opening about twice, length of the pectorals somewhat less or exactly twice, and length of the ventrals $1\frac{1}{2}$ to a little more than 1-2/3 times in the length of the head.

The greatest breadth of the head equals one-half, and the maximum height of the head almost goes 5/7 in the length of the head in the larger example; the greatest depth of the body attains nearly 1/5 of the total length, 2/9 of the length of the body, or about $\frac{3}{4}$ of the length of the head.

The upper profile of the head rises as a rounded obtuse oval, moderately projecting over the border of the mouth to the symmetrical end of the snout, without noteworthy curvature to origin of the first dorsal, and is even in the region of the snout very weakly concave.

p. 510. The posterior end of the mouth-opening falls quite an insignificant distance behind the vertical of the eye. The lower jaw is overhung in front by the symphysis of the upper jaw. The teeth in the jaws are delicate, brush-like, very numerous. The band of teeth in the upper jaw is broader

than that of the lower jaw and attains, at its most anterior portion, to the width of about one-quarter of an eye-diameter. There are no larger or stronger teeth in the outer rows of the bands of teeth in the jaws. Barbel on the chin about as long as the diameter of the eye.

The two outer ventral rays are moderately thickened, the second longest, contained about 1½ to 1-2/3 times in the length of the head, the first ray less than 2 to 2-1/9 times in same.

The tip of the ventral falls about a length of the snout before the origin of the anal or about under the end of the first fourth of the length of the pectorals.

Head and body dull golden brown; scaleless part of the dorsal, caudal, and anal blackish blue-grey. A darker stripe, not distinctly demarcated superiorly, along the under margin of the sides of the snout to the corner of the mouth.

D. 9/56-57. A. 53-58. Scales above the lateral line about 134.

Lotella rhacinus (Forst.) Gthr.

One example, 26.1 cm. long, from New Zealand.

D. 5/63. A. 58. V. 6.

Dusky brownish violet.

Length of head a little more than four times in that of the body, contained 4½ times in the total length; greates height of the body about 5 times in the total length, snout hardly less than 3½ times, length of eye about 5-2/5 times, interorbital space more than 4-1/3 times, length of the pectorals about 1-3/5 times, length of the second threadlike produced ventral rays nearly twice, and length of the median caudal rays contained about 2-3/5 times in the length of the head.

Snout rounded obtusely ovally anteriorly, projecting like a nose over the margin of the lower jaw. The hinder end of the upper jaw falls, when the mouth is closed, under a vertical from between the centre of the eye and the hinder ocular margin.

The moderately thick barbel on the chin is about as long as the eye, the inner ventral ray is half as long as the second and longest ray. About 244 scales lie along the upper part of the lateral line as far as the base of the middle caudal rays and about 19-20 between the base of the first dorsal fin and the lateral line.

The tip of the adpressed pectoral falls vertically over the anal origin, caudal ovally rounded.

Ventrals with finer delicate rays; both the outer ones are moderately produced, not thickened; the first ray is about half an eye-diameter shorter than the second, longer, ray of the fin.

p 511. *Galaxias fasciatus* Gray.

Many examples from Waikawa, French Pass, New Zealand; 16-21.1 cm. long.

Galaxias attenuatus (Jen.) C.V.

Many specimens, juveniles, from French Pass.

p. 513. *Scopelus* (*Myctophum*) *novae seelandiae* n. sp.

One example, about 5.6 cm. long, from New Zealand.

D. 12 to 13. A. about 18. V. 8. L. lat. 41. L. tr. 2½/1/2½ (to the ventrals).

Height of the body somewhat more than 4 times, length of the head contained 3-2/5 times in that of the body, eye-diameter about 3 times, length of the mouth-opening about 1-2/3 in that of the head. Snout very short, steeply sloping in an arc to the mouth-opening. Mouth-opening moderately ascending anteriorly; the hinder end of the upper jaw which is not widened reaches back almost to the angle of the preoperculum. The interorbital width is about 2/3; the length of the snout 1/3 of the eye-diameter.

The origin of the dorsal falls about more than one eye-diameter nearer to the anterior end of the head than to the base of the caudal; the origin of the anal is removed quite as far from the hinder ocular margin as from the base of the caudal. The jointed part of the ventral is situated below the vertical of the dorsal origin.

The length of the caudal peduncle, measured from the end of the adipose dorsal fin, is contained about 3-3/5 times in the length of the body and the minimum height of the peduncle about four times in the maximum height of the body.

Scales with entire margins, lateral line projecting like a keel. A row of photophores on each side of the ventral margin, 5 as far as the ventrals, 4 between the latter and the origin of the anal, next come 9-10 above the base of the anal to the caudal. Two or three photophores next to the shoulder-girdle up to the beginning of the lateral line, 1 between the ventral and the lateral line and 3 in an obliquely placed row between the tip of the adpressed ventral and the lateral line (the uppermost of this row lies on the lower part of the eighteenth scale of the lateral line).

The scales lying above the scale-row of the lateral line are almost completely absent in the example under examination; also the pectorals are only partly preserved.

p. 514. *Anguilla aucklandii* Richds.

One example, 45 cm. long, from New Zealand.

Length of the tail 24.4 cm., head 7.85 cm., distance between the gill-opening and the anal orifice 13.3 cm., distance of the gill-opening from the origin of the dorsal 7.9 cm., consequently about equal to the length of the head.

Some quite young specimens from freshwater at Waikawa (French Pass) probably also belong to the same species.

Muraena thyrsoidea Richds.

One large example (skin) from the South Sea, French Pass.

p. 516. *Stigmatophora gracilis* Macleay.

One example, young, about 10 cm. long (end of tail missing to the extent of 1 mm.) from French Pass.

D. about 63-64. Scutes 20+85 to 90. End of tail filiform.

Head 14 mm., snout 9 mm. A very delicate longitudinal ridge, running backwards somewhat over the middle of the height of the operculum.

The whole body is of a golden brown ground-colour, seen under the lens to be thickly dotted with blackish.

At the Vienna Museum are preserved three large examples, male and female, of this same species, up to about 20.7 cm. long, in which the tail comprises 70-75 rings and the dorsal fin 63-70 rays. Snout twice as long as the rest of the head.

Locality:—New South Wales to New Zealand.

Solenognathus spinosissimus Gthr.

One dried specimen, with a damaged snout, otherwise about 40 cm. long, from the Chatham Islands. D. 35. P. 24. Osseous scutes 26+55.

p. 517. *Monacanthus rudis* Rchds.

Three examples, 26, 26.5, and 28.7 cm. long, from New Zealand.

D. 33-34. A. 33-34.

p. 519. *Scyllium chilense* Guich.

One example, female, 81 cm. long, from French Pass.

Bdellostoma cirrhatum (Bl. Schn.) Gthr.

Many examples, 51 to 60 cm. long, from New Zealand.

Seven gill-openings.

The modern names for Steindachner's species are as follows:—

Haplodactylus schauinslandii is now *Dactylosargus arctidens* (Richardson).
Chilodactylus macropterus is now *Nemadactylus macropterus.*
Latris ciliaris is now *Latridopsis ciliaris.*
Sebastes percoides is now *Helicolenus papillosus* (Bl. Schn.).
Anema monopterygium is now *Genyagnus monopterygius.*
Percis nictymera is now *Parapercichthys colias* (Bl. Schn.).
Trigla kumoides is now *Currupiscis kumu* (Cuv & Val.).
Tripterygium medium is now *Helcogramma medium.*
Acanthoclinus littoreus is now *Acanthoclinus quadridactylus* (Bl. Schn.).
Lepidopus caudatus is now *Lepidopus lex* Phillipps.
Diprocrepis puniceus is now *Diplocrepis puniceus.*
Pseudolabrus cossyphoides is now *P.* (*Lunolabrus*) *miles* (Bl. Schn.).
Pseudolabrus bothryocosmus is now *P.* (*Lunolabrus*) *celidotus* (Bl. Schn.).
Pseudolabrus celidota is now *P.* (*Lunolabrus*) *celidotus* (Bl. Schn.).
Coridodax pullus stands.
Lotella grandis is now *Physiculus barbatus* (Gunther).
Lotella rhacinus stands.
Galaxias fasciatus stands.
Galaxias attenuatus is now *Austrocobitis attenuatus.*
Scopelus (*Myctophum*) *novaeseelandiae* is apparently a *Myctophum.*
Anguilla aucklandii is now *Anguilla dieffenbachii* Gray.
Muraena thyrsoidea is now *Lycodontis thyrsoidea.*
Stigmatophora gracilis is now *Stigmatophora longirostris* Hutton.
Solenognathus spinosissimus is now *Solegnathus spinosissimus.*
Monacanthus rudis is now *Navodon australis* (Donovan).
Scyllium chilense probably refers to *Cephaloscyllium isabella* (Bonn.).
Bdellostoma cirrhatum is now *Eptatretus cirrhatus.*

Most of the types of Steindachner's new species, which were first described in Anzeig. Akad. Wiss. Wien xvi, 28 June 1900, pp. 174-178 (a work not available to me), survived the two World Wars and are in the Uberseee-Museum, Bremen, Germany, having been recently catalogued by Gerd von Wahlert (Veroff. Ubersee Museum Bremen, A, ii, 5, 1955, pp. 323-326, figs. 1-2). He says the type of *Scopelus* (*Myctophum*) *novaeseelandiae* is unfortunately lost and that the whereabouts of the type of *Pseudolabrus cossyphoides* is unknown.